Chemical & Engineering NEWS

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Protecting Worker Fertility

Concern grows over reproductive hazards Page 28

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News of the Week

- ***Fertilizer producers are doing well*** *this year, partly because forecast ammonia overcapacity didn't materialize, but phosphate makers face export embargo.* ***Page 6***
- ***Exports of phosphates to the U.S.S.R.*** *have been suspended by the Commerce Department via licensing procedure.* ***Page 7***
- ***Uniroyal's Rovel*** *weather-resistant plastics are made of styrene-acrylonitrile resin compounded with olefinic rubber.* ***Page 7***
- ***Scientific research stagnation*** *threatens U.S. universities, NRC study says; urges support of new, young scientists.* ***Page 7***
- ***New Institute of Neurotoxicology*** *will study the effect on the human nervous system of exposure to toxic substances.* ***Page 8***
- ***Striking oil refinery employees*** *have been joined by oil field workers, which may increase pressure on companies.* ***Page 8***

Business

- ***Reinforced plastics demand*** *likely will slip 5% this year, following disappointing 2% rise in 1979, mainly because of drops in boat and auto markets.* ***Page 11***

Government

- ***Regulatory agency budgets are up*** *for fiscal 1981, but inflation will determine real level of growth or decline.* ***Page 14***
- ***Opposition fails to halt final okay*** *on Chesapeake Bay oil refinery; first to be built on East Coast since 1957.* ***Page 15***

Science

- ***U.S. scientists and government*** *move to restrict scientific relations with Soviets in response to invasion of Afghanistan and detention of Sakharov.* ***Page 17***
- ***Peptide sex hormones*** *and their derivatives are being tested as possible male and female contraceptives.* ***Page 18***

Technology

- ***Spent gas lecture bottles***—*which many users find hard to dispose of safely—will be bought back by Matheson.* ***Page 27***

News Feature

- ***Reproductive hazards in the workplace*** *is growing issue involving chemical firms, unions, workers' rights groups, and several federal agencies.* ***Page 28***

ACS News

- ***ACS long-term goals*** *and specific goals for 1980 have been approved by ACS Board of Directors and ACS Council.* ***Page 36***
- ***U.S. court has ruled*** *it doesn't have jurisdiction in dispute between ACS and former president Alan Nixon.* ***Page 37***

Books

- ***"Scientists in Power"*** *uses development of nuclear power in France as the basis for a discussion of relationship of scientists to society.* ***Page 49***

Reinforced plastics head for slump in 1980

Overall market expected to be down 5% this year following meager 2% gain in 1979; big problem, as in past slowdown, is in boats and autos

After growing about 75% during the U.S. economic expansion since 1975, the reinforced plastics market has slipped into one of its periodic pauses. Demand rose a disappointing 2% in 1979 from 1978 and is expected to drop 5% in 1980. The net result is that the market has been idling for three years at about 2 billion lb.

The reason for the lull is the same as in past economic slowdowns. Reinforced plastics are very vulnerable to drops in markets for big-ticket consumer durables—especially automobiles and boats.

Reinforced plastics market developers like to say their products can depend on new penetration, especially in poundage used per auto, to spare them from cyclical downswings. That appears to be partially true, since reinforced plastics' use in the land transportation market rose in 1979 despite the drop in U.S. auto sales from 1978. However, penetration was not good enough to bring reinforced plastics up to their target 9% growth in this area in 1979.

The worst showing of reinforced plastics in 1979 and the worst expected in 1980 is in the marine market. In this area even reinforced plastics marketers admit they don't have enough penetration possibilities left to counter a bad economic cycle. In what used to be the biggest reinforced plastics market, use in 1979 sank 10%. In 1980, producers fear another 11% market drop. The big problem is the medium-sized boat market for 14- to 18-footers. Although the larger boat market held up fairly well, this middle area was a disaster in 1979 as boat-buying plans vanished in the face of record high interest rates for loans.

These market figures for boats and other areas came out last week at the annual conference of the Reinforced Plastics Composites Institute of the Society of the Plastics Industry in New Orleans. The institute's annual market survey is the work of Laura Morrison of Morrison-Gottlieb public relations firm, New York City.

The survey measures the total weight of reinforced plastics used in markets for U.S. production. This includes the resin, most notably thermoset polyester; the reinforcement, predominantly glass; and additives, including a fast-rising group of fillers replacing resin. The last development is undoing the old rule of thumb that the highly fragmented reinforced plastics market could be approximated through production of resin or glass. It is also hurting resin producers.

Now fillers are an increasing part of the final product. Fillers include sand, mica, glass spheres, and even fly-ash spheres. Besides saving on cost over increasingly high-priced resin, the fillers have other advantages such as sometimes speeding up production cycles, improving fire resistance, and stepping up impact resistance.

Auto companies are giving hollow glass spheres a tryout in reinforced plastics parts such as one roof panel now in production. More ambitious scaleup would use plastics containing glass spheres for the entire auto body to gain a 20% overall weight saving.

However, such dramatic new uses, like other grand schemes reinforced plastics producers have for cars (such as an all graphite-reinforced plastic auto), are still a long way from reality. For now, reinforced plastics makers are content with laborious part-by-part penetration into Detroit's specifications for autos and trucks.

A good example of a breakthrough of this nature is an all-plastic three-piece door on Astro and General trucks this year. The producer of the molded part, Premix Inc. of Lancaster, Ohio, calls this "the first vehicle body component subject to mechanical stress to be successfully mass produced of reinforced plastics using no metal supports or stiffeners." The two truck doors give a weight saving of 80 lb over conventional metal doors.

Such new uses keep transportation the brightest hope for reinforced plastics in the 1980's despite a weak start. Of help in this market is growing use of reinforced thermoplastics, which find their biggest outlet in autos. The thermoplastic contingent grew 14% in 1979 from 1978 to 246 million lb, 12% of total reinforced plastics. For 1980, the outlook is a 3% drop to 238 million lb. □

Reinforced plastics demand expected down in 1980 for six of nine major markets

Millions of lb	1980[a]	1979[a]	1978	1977	1976	1975	1970	% change 1979–80	% change 1978–79	% change 1970–80
Transportation, land	522	550	535	475	398	265	131	−5%	3%	15%
Marine	342	385	430	400	365	285	183	−11	−10	6
Construction	320	335	320	286	248	175	115	−4	5	11
Anticorrosion	226	238	216	192	157	163	73	−5	10	12
Electrical	182	180	170	147	123	82	59	1	6	12
Appliance	130	130	123	112	98	64	29	0	6	16
Consumer goods	114	126	116	107	102	64	67	−10	9	5
Aircraft	24	23	22	21	22	24	27	4	5	−1
Other	77	79	74	70	66	53	89	−3	7	−1
TOTAL	1937	2046	2006	1810	1579	1175	773	−5%	2%	10%

a Estimates. Source: Reinforced Plastics/Composites Institute of the Society of the Plastics Industry